

Teacher Efficacy Survey: [Teaching Science in Primary Schools: NT DET]

Combined – Alice Springs, Nhulunbuy, Darwin

BACKGROUND

1. How many years have you been teaching?

40, 30+, 32, 31, 30, 28, 23, 20+, 18, 17, 16, 15, 14, 13, 12, 12, 9, 8, 7, 7, 5, 4, 4, 3, 1, 9 mths, 8mths

2. How much structured professional learning about science teaching did you undertake in the last 12 months?

- a. None 21
- b. A session or two 4
- c. About a day 2
- d. Many days 0

BELIEFS AND CONFIDENCE IN SCIENCE TEACHING

3. Rate your knowledge of science for teaching science at primary school level.

Poor										Excellent	
0	1	2	3	4	5	6	7	8	9	10	
			4	4	8	4	6				

4. How confident do you feel in your teaching of science at this level?

No confidence										Highly confident	
0	1	2	3	4	5	6	7	8	9	10	
			4	3	9	4	5	2		2	

5. How confident do you feel in your ability to address the needs of learners who seem unmotivated during science lessons?

No confidence										Highly confident	
0	1	2	3	4	5	6	7	8	9	10	
			4	1	7	5	5	2	2	1	

6. How confident do you feel in your ability to address the needs of students who experience difficulty in learning science?

No confidence										Highly confident	
0	1	2	3	4	5	6	7	8	9	10	
			2	2	7	8	5	3		1	

7. How confident do you feel in your ability to address the needs of very able learners of science?

No confidence										Highly confident	
0	1	2	3	4	5	6	7	8	9	10	
		3	2	2	6	7	2	1	4	2	

8. What aspects of your science teaching do you feel you do well?

- Lesson design – engage, explore & investigate, reflect & conclude
- The structure of experiments. Questioning and investigation
- General knowledge in many areas. Ability to tell stories that relate to everyday events
- Inquiry based learning. Problem solving
- Children love new ideas
- Using internet for research, relating to everyday life
- Practical side
- Creating interest
- Practical skills. Giving detail about why we are doing this
- Blank x 3
- Life and living, environment
- Having a science degree, I feel confident in having the background knowledge
- Hands-on stuff
- Inquiry approach
- Hands on activities, relate to students' prior knowledge
- Hands on enquiry / cooperative tasks
- Content, activities
- Inquiry learning, critical thinking
- Hands on practical work, the teaching of concepts
- Process of investigations
- Not much!
- The biological sciences and environmental
- Cooperative learning philosophy, encouraging discovery and group activities across all areas of curriculum
- Experiments. Program for science experiments, explanation of activity
- Preparing and planning hands on experiments. Extending their vocab related to task

9. What aspects of your science teaching would you like to improve?

- Do it more often. Assessment activities
- Knowledge and variety of activities
- Further activities to teach science across the curriculum
- All
- Practical experiments / investigations of interest to the children
- Assessment, accumulation of materials
- 5Es to gain a better understanding
- Letting go of control. Developing trust in students doing learning, not me showing them
- Larger picture stuff
- Pulling out more types of thinking – using the science lab
- Teaching concepts in depth
- Understanding of processes/ways of constructing knowledge/meaning making for young children
- Everything else
- Blank x 4
- Valuing it more – seems to be the first thing to be taken out of the week if there are interruptions
- Cause and effect. Elaborating on scientific findings. What are the causal factors? External factors that may affect results
- Background knowledge of scientific areas
- Physics and chemistry

- All aspects
- Programming science – using gear / use of resources that are available and easily accessed
- Getting students to draw conclusions themselves
- Assessment. Relationship with high school and expectations
- Improve my science knowledge and increase the range of engaging, meaningful tasks for the future
- Knowledge

10. How are the topics and sequences of topics for science chosen at your school?

- Someone else makes the plan and gives it to us 9 curriculum map x 3
- The teachers decide together 12 being the ESL teacher I have done both
- I decide for myself 13

11. Indicate by circling the appropriate number how often the following describe how you plan your science units of work.

	Hardly Ever	Now and Again	Quite Often	Nearly Always
a. make a list of interesting relevant activities and arrange them into the teaching sequence	4	6	10	4
b. look at particular content goals (using NTCF or similar) and work out how students might learn them	1	3	11	10
c. follow the sequence in a textbook/backline master	8	6	3	2
d. follow the sequence in a textbook/backline master but add in some other activities for variety and student interest	5	4	12	3 (Primary Connections x 1)

e. Write any other ways you plan your science units here, and how often.

- Have used Primary Connections
- Using a whole school theme and Anne Morrice method and then pulling science units out of that theme. Term 2 focus text movie 'Up' – science, flight, gravity, atmosphere, lighter/heavier than air crafts. Term 3 focus text movie 'Bugs Life' – science classification insects, reproduction, pollination, food chains/webs.
- I link it with the Anne Morrice literacy cycle.
- Activities that can be linked with other curriculum areas, rather than a stand alone.
- Our curriculum maps have Primary Connections built in, so we have to teach it when required.
- Students' interest. Community event/issue
- I plan, organize, use, integrate from various sources
- Based on children's interests that develop in the classroom, bas4d on the questions they asked – research the answer
- NTCF
- Primary Connections – excellent
- Blank x 5
- I have been using Primary Connections for the past few years. I asked Lorraine for the NTCF equivalent of outcomes and then referred to units of work and I usually delete or add appropriate lessons and adapt to fit my cohort
- From questions students ask. From CSIRO ideas/workshops (twice a year)

- I run a release program across our school. Interests of students – gauging where to go next to further their line of inquiry. Content being covered in classroom by teachers (eg sustainability – I would cover a unit on renewable energy)
- Find resources that compliment Primary Connections that support the students in their learning ie Science in Action Forces – Push Pull Primary Connections
- Primary Connections, CSIRO resources online, NZ units (older resource), Science Week focus
- Collaboratively with class teacher, including the ESL outcomes
- I rely heavily on the outcomes that need to be covered using the NTCF, and integrate my science program around my unit of work. I do often choose a topic that has a large focus on a certain KLA eg natural disasters, human body – strong science links
- Student interest and questions. CSIRO workshops

12. Indicate how often the following stops you from teaching science as well as you want to.

	Hardly Ever	Now and Again	Quite Often	Nearly Always
a. I don't have enough time to plan properly	7	9	8	1
b. Focus is on literacy and numeracy – not enough time for 'science' as a priority too	3	9	13	
c. There are behavior issues in the class during science	13	9	4	
d. There are too few resources available	2	11	10	4
e. There are many safety issues to consider	8	14	4	
f. The students are not interested in watching me do the experiment	18	6	1	1
g. Science investigations are too hard to organize	9	12	5	
h. I find it difficult to support students through stages of <i>investigating</i>	8	13	4	1
i. The spread of 'science' abilities and knowledge among my students is very broad	5	7	7	6
j. I don't have time to design assessment activities for science	7	14	4	1
k. I find it difficult to link our literacy and numeracy outcomes with science outcomes	17	8	1	
l. I am not confident in my own content knowledge of science at this level	5	13	8	1
m. Addressing different cultural worldviews around science content is difficult for me in this teaching context	7	12	7	1
n. I'm not sure of the most effective way to sequence science teaching and learning activities	8	9	9	1
o. It is difficult to bounce ideas without support from school colleagues	11	8	6	1
p. With so many experiments, it is hard to know if students have actually learned anything	11	7	3	

13. Write any other restrictions on your science teaching here and how often they interfere.

- Large class (early childhood), lack of resources (people to help), coordinating/assisting groups
- Resources – planning for the teaching and learning cycle
- My own confidence in my ability to teach science (or rather lack of it)
- Need to translate films/texts into Luritja. Sometimes difficult if the translator does not have an understanding of the science context/language
- Lack of resources in our aboriginal school
- Poor furniture, room set up for doing experiments without interference from others due to open plan classroom design
- Booking science lab – in the time that suits our class
- Non English speakers
- Classroom space restrictions
- No comment x 10
- Time. Resources / facilities / money
- As specialist (teaching all classes) time constraints (only 1 hour time slots) and lack of cross over into classroom planning
- Seniors prioritizing other topics over science
- Equipment, space
- Impact of specific literacy demands and covering all areas of curriculum. Availability of resourcing. Knowledge base. Managing class dynamics
- Space, time
- Teacher knowledge. Resources. Time / busy curriculum. Focus on numeracy/literacy. I do, however, believe you can do science across literacy / in literacy / it is literacy
- Time, money, resources

14. On average, how long do you anticipate spending on planning each science lesson?

<10 mins	10 - 20 mins	20 - 30 mins	>30 mins
3	2	7	12

15. On average, how long do you usually spend per week “doing” science?

<20 mins	20 – 30 mins	30 – 40 mins	40 – 50 mins	50 – 60 mins	>60 mins
1		3	5	6	7

16. How do you involve the community in the teaching of science?

- Access and utilize ‘experts’ from various fields for school visit. Excursions
- Don’t know. Hard to connect due to organisational problems
- Non-involvement as yet. It would be advantageous to engage aboriginal elders and aboriginal community
- Work with assistant teachers [remote school]
- When appropriate ask elders to come in and tell their experience and explanation before – then show western explanation
- Involving guests who know more about science than I do!
- Excursions, parents
- Science week – invite parents

- Visitors, expertise knowledge
- Blank x 10
- n/a
- scientists in the school
- not a lot – attempting to get cultural/language program re-established which hopefully can link in and inform some sectors of the program
- I Haven't – prior to the change in classroom dynamics (told to cut science and teach more well being)
- Regular newsletter articles. Open days/hands on nights. Meeting with parents
- CSIRO, excursions
- Have just started looking at scientists in schools program. Involve indigenous community ie bush tucker, plants

17. How are you supported to deliver science to your students?

- I support teachers in remote settings
- By colleagues at school
- On my own [remote]
- Nil
- Well by senior management if it doesn't need money
- As part of our curriculum maps, it is resourced to a reasonable level
- Nil – may discuss things with other teachers
- In-school Primary Connections PD/ sharing sessions
- Blank x 12
- Have lots of resources and if I require extra help form a person I can organize it
- Budget. Science room. Some resources
- Minimally
- Not x 2
- Not at all
- n/a

18. What is your current teaching setting/context?

urban	rural	remote	very remote	
14	2	6	4	regional

19. How does the amount of time you spend on “doing” science change in different contexts/settings?

- No comment x 11
- I provide teacher release (2 hrs) for 3 classes so I have a solid block of time each week
- Resources, makeup of class, teaching partner and class
- The term focus affects it but also structure of the school day and the “happenings” in the community
- More in early years
- Depending on tasks and events in the school
- Science is an integrated part of investigations
- Whether it is a release subject
- It very much depends on the students I have and how they work together as a group
- 2 x SOSE, 2 X Science units/year
- Younger classes – shorter attention span

- A lot. My classroom dynamics changed significantly recently and I was told to cut science and teach more wellbeing
- Curriculum map priorities of particular school. Ease of accessing resource. Ease of accessing a budget! Impeded through investigations by other 'events' that take over learning and teaching time
- Organization of equipment
- Behaviour management requirements. Availability of resourcing. Responsiveness of groups
- Depends on curriculum map
- We follow a SOSE/Science alternate curriculum. It is integrated twice a year for a whole term. Interruptions to daily routine can affect lessons

20. In your view, how interested in science do your students perceive you are?

- Moderate at senior primary. Very at early years
- Enthusiastic
- Very x 4
- Very interested x 4
- Its different and exciting so usually interested
- Not very!
- Quite interested x 2
- Some are very interested, others are not interested at all
- Probably not much, hence I'm here
- Very excited – hate preparing!!
- Don't know
- Probably about a 50/50 interest in terms of other curriculum areas
- High
- Average
- They know that I enjoy science as they do
- Blank x 5